

CLIMATE CHANGE

On Scientists and Advocacy

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Last year, I asked a crowd of a few hundred geoscientists from around the world what positions related to climate science and policy they would be comfortable publicly advocating. I presented a list of recommendations that included increased research funding, greater resources for education, and specific emission reduction technologies. In almost every case, a majority of the audience felt comfortable arguing for them. The only clear exceptions were related to geo-engineering research and nuclear power. I had queried the researchers because the relationship between science and advocacy is marked by many assumptions and little clarity. This despite the fact that the basic question of how scientists can be responsible advocates on issues related to their expertise has been discussed for decades—most notably in the case of climate change by the late Stephen Schneider.

Schneider described in great length the importance of recognizing that it is a combination of science and values that leads to policy choices. He repeatedly stressed the importance of scientists being forthright about their values and the process by which they arrived at their advocacy position. His elucidation of the policy challenges posed by climate change [e.g., (1)] was far from a naive “science-only” approach, and it has been followed by many subsequent scientist-communicators (including myself).

The scientists depicted in Joshua Howe's *Behind the Curve* are nothing like Schneider. Those scientists apparently have, for over 50 years, clung to a delusion that policies arise solely from scientific facts, and they remain perplexed as to why CO₂ emissions continue to rise. Oddly enough, one of them is Schneider. This contradiction is both surprising and a little disappointing.

Howe (a historian at Reed College) offers a solid description of institutional responses to the emerging science of climate change over the past half century. The titular curve is the depiction of the ever-increasing con-

centration of CO₂ measured at Mauna Loa, originally by the dogged Charles D. Keeling. The trope in the title refers to the background story of climate politics but also to the slow policy responses, which do indeed lag behind the curve of the science. A more detailed analogy that Howe draws between the ups and downs of the Keeling curve and those of policy responses is less successful because the CO₂ concentration steadily continues to rise while policy responses have frequently stalled.

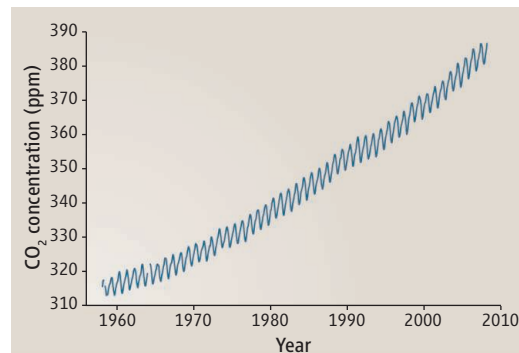
Howe holds that the lack of commensurate responses to the challenge of accelerating CO₂ emissions stems from the problem having been exclusively presented science-first. He states (unsurprisingly) that “as a result of their science-first approach, scientists have made tremendous strides in their understanding.” However, Howe implicitly equates scientists’ natural emphasis on science-first approaches to science with the idea that their advocacy must be science-only—a jump that is only weakly supported. Furthermore, Howe claims that this science-only advocacy has in turn led to science itself becoming a political target.

There are multiple problems with this argument. For instance, Howe provides no description of what a non-science-first approach would have looked like. Indeed, given that there are no nonscientific reasons for reducing CO₂ emissions, it is hard to even imagine one. Howe's lack of recognition that scientists such as Schneider were actually fully aware that science-only is not sufficient for advocacy is odd given that Howe has clearly carefully read Schneider's last book (2). Stranger still is Howe's failure to recognize that anti-science political strategies often arise when science is perceived to threaten some vested religious, political, or economic interest. Any claim that political attacks on climate scientists are a unique consequence of their advocacy is ahistorical.

Much better is Howe's account of the links between previous environmental issues (ozone depletion, acid rain, and nuclear winter) and the synthesis of atmospheric, oceano-

graphic, and cryospheric knowledge that now informs our understanding of climate change. (For instance, he offers interesting details about the supersonic transport plane project.) The book's best parts deal with the details of policy discussions. In them, Howe jumps from acronym to acronym with the balance of wonkish ballerina, although on more than a few minor points, better fact checking would have helped.

Overall, I was disappointed in the shallowness of Howe's engagement with his central idea. Early on, he claims that the only legitimate way for scientists to advocate is to ask for more science funding, a position that reflects a very narrow and unrealistic view of what scientists supposedly value. This narrowness of vision persists throughout the book, and clichéd descriptions of scientists as political naïfs are a constant refrain. *Behind the Curve* comes across not as a critique of science-first approaches to policy that have



Keeling's curve.

failed but rather as criticism of scientists first for failures in policy.

The real hurdle to enacting policies commensurate with the magnitude of the climate change challenge is simply that we all have a large vested interest in the (increasingly unsustainable) status quo. This makes it a more difficult problem than any of the environmental issues previously identified by scientists. Nonetheless, science and scientists still have much to offer in finding ways forward, and, as my informal survey demonstrated, there is no shortage of scientists who have a far more nuanced approach to advocacy than Howe assumes. As a scientist-advocate myself (3), I think that is a hopeful sign.

References

1. www.agci.org/library/presentations/about/presentation_details.php?recordID=10192.
2. S. H. Schneider, *Science As Contact Sport: Inside the Battle to Save Earth's Climate* (National Geographic, Washington, DC, 2009).
3. www.youtube.com/watch?v=CJC1phP56IA.

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